

REMARKS

The Office Action of November 17, 2003 has been received and considered. The indication that claims 1-118 are allowed is appreciated. Claims 119-138 remain rejected in the pending Action. Reconsideration of this rejection is requested.

The examiner's comment that the original patent has not yet been submitted is noted. Accordingly, the original patent document is submitted under a separate paper accompanying this Response. Confirmation of its receipt is requested.

The examiner has noted that a supplemental oath or declaration is required. It is requested that this requirement be held in abeyance until the allowed claims have been fully determined, in accordance with MPEP § 1444.

The examiner further notes that the requirements of 37 CFR § 1.173(c) were not met in the previous Amendment filed with the RCE on December 10, 2002, or the Supplemental Amendment filed March 25, 2003. Support from the specification for the changes to the claims is set forth below. Withdrawal of this objection is requested.

The examiner has also objected to the drawings as failing to comply with 37 CFR § 1.173(a)(2). However, drawings from the issued patent were submitted with the filing of the reissue application. These are believed to meet the requirements of § 1.173(a)(2). If this objection is maintained, please identify the manner in which these drawings are not in compliance with the Rule.

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Claims 119-138 has been rejected under 35 USC § 103(a) as being obvious over US Patent No. 5,088,214 to Jones in view of US Patent No. 4,433,496 to Jones. This rejection is traversed.

Claims 119-124 are directed to a wear assembly for attachment to a lip of an excavator that includes a boss fixed to the lip, a wear member provided with a slot to receive the boss, and a lock received in an opening in the wear member to retain the wear member on the lip. The lock has a body and an adjustment member that moves relative to the body to pull the wear member rearward and thereby tighten the mounting of the wear member on the lip.

The '214 patent discloses a wear assembly wherein a shroud includes a slot that is received over a complementary shaped boss fixed to the lip. The shroud includes an opening beyond the boss for receiving a lock. The lock then prevents the shroud from sliding forward off of the boss. The lock clearly includes no adjustment assembly, and needs no adjustment assembly to meet the objective of securely holding the shroud to the lip while permitting easy removal and replacement with a new shroud.

The '496 patent discloses an assembly which is much different in structure, operation and purpose as compared to the '214 patent. There is nothing in the '496 patent that would suggest to one ordinarily skilled in the art to add an adjustment assembly to the lock of the '214 patent.

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In the '496 patent, the screw is provided to set the lock, not to provide an adjustment assembly. For many years, adapters could be attached to a lip of a bucket by welding or by being mechanically attached through a "whisler" attachment.

In a whisler attachment, such as the '496 patent, the adapter is provided with a pair of bifurcated legs (16, 16') that straddle the lip (10). Each of the legs is provided with an elongate slot (17) that generally aligns with an elongate slot (11) formed in the lip (10). The rear portion of each leg is provided with an inclined surface (24, 25) that slopes downward toward the slot (17) in the leg. A generally C-shaped spool (26) is then placed through the slots (17, 11) in the legs (16, 16') and in the lip (10) such that its arms engage the inclined surfaces (24, 25) of the adapter's legs. The inside surfaces on the arms of the spool (26) are also inclined to generally match the slope of the inclined surfaces (24, 25) on the legs. Traditionally, a wedge is then hammered into the slot in the lip between the front wall of the slot and the front wall of the spool. The hammering of the wedge, then drives the spool rearward so that the arms ride over the inclined surfaces on the adapter. The matching slopes of the arms and the inclined surfaces of the adapter legs cause the arms to pinch the legs of the adapter against the lip. Without the tight pinching, the adapter simply falls off the lip.

The '496 patent seeks to eliminate the need to hammer the wedge into the opening and thereby provide a safer and easier process by which the adapter can be attached and detached. More specifically, a bolt (34) is provided to push the wedge (28) into the opening. The wedge is anchored to the bottom of the spool via a nut (35).

The spool (26) is anchored by gripping the underside of the adapter. By having the spool grip the adapter, the bolt (34) can be rotated to force the wedge (28) into position so that the spool (26) is driven rearward to pinch the adapter legs (16, 16') against the lip (10). The wedge is forced into the opening to secure the adapter to the lip, not as an adjustment to eliminate looseness of an already secured lock.

In the '214 patent, the lock is fit into the opening in the wear member to hold the wear member in place on the boss, and hence, the lip. The lock performs this function even if looseness exists between the wear member and the lip. There was never any hammering involved in the '214 patent. Hence, the improvement sought by the '496 patent would be inapplicable to the assembly in the '214 patent.

Further, the '496 patent uses a bolt and wedge to effect the attachment of the adapter to the lip. In the '214 patent, a lock without the use of a bolt and wedge secures the shroud to the lip. A fixed boss is used instead of a bolt and wedge arrangement. The lock of the '214 patent uses less parts and involves an easier assembly of the shroud to the lip as compared to the whisler style attachment disclosed in the '496 patent. There is no suggestion in the '496 patent that the addition of a bolt and wedge to the '214 patent assembly would be beneficial in securing a shroud to a lip. Without the benefit of the teachings of the present invention, there is no reason to think that one of ordinary skill in the art would have considered it obvious to add extra parts and extra assembly steps for performing the same functions as already being performed by the simple lock in the '214 patent.

Moreover, the lock arrangement of the '496 patent requires the presence of a sizable opening in the lip. Without the ability of the spool to pass through the lip and grip the underside of the adapter, there is no ability to anchor the bolt and thereby drive the wedge into place. As can be appreciated, the presence of a series of openings across the front of the lip results in an undesirable weakening of the lip. Such openings were accepted in a whisler attachment because it provided a way of mechanically attaching the adapter to the lip. A mechanical attachment, even one that weakens the lip, enables the adapters to be replaced in the field when worn as opposed to welded adapters where the bucket must often be taken off-line for replacement of the adapter. The inability to use a bucket, particularly a large bucket, can be a great economic hardship for mining companies.

In view of the differences in structure, function and purpose of the '496 patent as compared to the '214 patent, claims 119-138 would not have been obvious to one of ordinary skill in the art.

Claim 122 also recites that the body of the lock includes a threaded bore and the adjustment member includes a threaded shank, wherein the threaded shank is generally parallel to the longitudinal slot in the wear member. Since this claim depends from claim 119, it is believed allowable for the above-noted reasons. Moreover, the threaded member in the '496 patent is oriented perpendicular to the lip and does not teach the use of a bolt that would be generally parallel to the lip, i.e., generally parallel to the slot that receives the boss. Rather, in the '496 patent, the threaded shank is

vertically oriented and used to direct the wedge (28) along curved surface (29) of the C-shaped spool (26). Hence, there is simply no teaching in either of the patents, taken alone or in combination, for the structure recited in this claim.

Claim 125 is directed to a wear assembly that includes a boss fixed to the lip, a wear member provided with a slot to receive the boss, and a lock to releasably retain the wear member to the lip. Additionally, the wear member is recited to include a transverse bearing surface at a front end of the slot. The slot is generally parallel to the front wall of the boss, which it abuts for enhanced support. Likewise, claim 135 pertains to a wear member provided with a rearwardly-facing bearing surface extending generally transverse to the lip at a front end of the slot for abutting against at least a substantial portion of the front wall of the boss.

As plainly seen in Figure 2 of the '214 patent, the front of the boss does not abut the wear member. Rather, the wear member includes a recess so that such abutment does not occur. Moreover, the surface defining the recess is clearly not generally parallel to the front wall of the boss. The '496 patent does not include a boss or a bearing surface in the wear member to abut such a boss. Hence, the limitations of these claims are not met by the '214 and '496 patents.

Claim 129 is also drawn to a wear assembly with a boss, a wear member and a lock. The boss is fixed to the lip and includes a front portion that wraps around the front edge face of the excavator lip. The boss in the '214 patent does not wrap around the lip. Rather, this boss is spaced well rearward of the front edge face of the lip. As noted

above, the '496 patent does not even include a boss. Hence, neither patent relied upon in the rejection teaches or suggests the use of a boss that wraps around the lip. Accordingly, this claim is not disclosed by the prior art.

Claim 130 depends from claim 129 and is believed allowable for the reasons noted above. This claim further recites that the wear member includes a front bearing surface that is generally parallel to the front wall of the boss, which it abuts. As discussed above in regard to claim 125, this is a construction which is not disclosed or suggested by either the '214 patent or the '496 patent.

Finally, claim 138 depends from claim 77, which has been allowed. Hence, this claim is also believed to be allowable.

With regard to the amendments filed December 10, 2002, March 25, 2003, and herein, the support for the changes or new claims is given below.

December 10, 2002 Amendments

Claim 74

Col. 2, lines 28-31 and 34-36

Col. 3, lines 51-61

Col. 4, lines 16-21

Claim 75

Col. 5, lines 1-5

Claim 81

rewritten in independent form

no new limitations

Claim 86

Col. 5, lines 16-30

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Claim 108
Col. 4, lines 44-51
Col. 5, lines 1-5 and 44-47

Claim 109
Col. 5, lines 1-3

Claim 111
Col. 2, lines 34-36
Col. 3, lines 55-58 and 62-64
Col. 4, lines 16-26

Claim 115
Col. 5, lines 40-49

March 25, 2003 Amendments

Claim 74
Col. 3, lines 46-49 and 51-59
Col. 4, lines 49-51
Col. 5, lines 16-20 and 40-49

Claim 75
Col. 5, lines 1-3

Claim 76
no new limitation

Claim 78
Col. 3, lines 55-58

Claim 79
Col. 3, lines 53-54

Claim 80
Col. 3, lines 53-54

Claim 81
Col. 3, lines 46-49

Claim 91
Col. 3, lines 46-49

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Claim 103
Col. 3, lines 46-49

Claim 104
Col. 3, lines 44-50

Claim 108
Col. 3, lines 46-49
Col. 4, lines 46-49
Col. 5, lines 1-5, 16-23 and 40-49

Claim 111
Col. 3, lines 46-59
Col. 5, lines 1-5

Claim 113
Col. 2, lines 34-36
Col. 3, lines 51-59

Claim 115
Col. 3, lines 46-49

Claim 116
Col. 2, lines 34-36
Col. 3, lines 51-59

Claim 119
Col. 3, lines 46-64
Col. 4, lines 30-55
Col. 5, lines 16-18, 40-49 and 64-67
Col. 6, lines 1-14

Claim 120
Col. 5, lines 66-67
Col. 6, lines 1-2

Claim 121
Col. 6, lines 4-7

Claim 122
Col. 5, lines 66-67
Col. 6, lines 1-7

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Claim 123
Col. 6, lines 1-14

Claim 124
Col. 5, lines 16-30

Claim 125
Col. 3, lines 46-64
Col. 4, lines 30-55
Col. 5, lines 1-5, 16-18 and 40-49

Claim 126
Col. 5, lines 64-67
Col. 6, lines 1-2

Claim 127
Col. 5, lines 64-67
Col. 6, lines 1-14

Claim 128
Col. 5, lines 16-30

Claim 129
Col. 3, lines 46-64
Col. 4, lines 30-55
Col. 5, lines 16-18 and 40-49

Claim 130
Col. 5, lines 1-5

Claim 131
Col. 5, lines 64-67
Col. 6, lines 1-7

Claim 132
Col. 5, lines 64-67
Col. 6, lines 1-2

Claim 133
Col. 5, lines 65-67
Col. 6, lines 1-2

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Claim 134
Col. 5, lines 65-67
Col. 6, lines 1-14

Claim 135
Col. 3, lines 44-50
Col. 4, lines 38-55
Col. 5, lines 1-5, 16-18 and 40-49

Claim 136
Col. 5, lines 16-30

Claim 137
Col. 4, lines 30-37

Claim 138
Col. 2, lines 34-36
Col. 3, lines 51-64

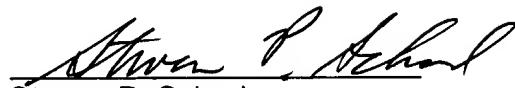
May 17, 2004 Amendments

Claim 122
Col. 5, lines 65-67
Col. 6, lines 1-7

All of the pending claims are believed to be allowable. A notice to this effect is requested.

Respectfully submitted,

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APPENDIX

Claim 122 has been amended in this Response. The changes as compared to its previous form are noted below where added words have been underlined and omitted words struckout.

122. (Amended) A wear assembly in accordance with claim 119 in which the body includes a threaded bore and the adjustment member is includes a threaded shank extending through the bore, wherein the shank extends generally parallel to the longitudinal slot in the wear member.

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